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10/021,205	12/07/2001	Philip P. Carvey	2390.1006-009	9706
21005 7590 06/08/2010 HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133				
EXAMINER				
LEE, ANDREW CHUNG CHEUNG				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/021,205

Applicant(s)

CARVEY ET AL.

Examiner

Andrew C. Lee

Art Unit

2476

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 March 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3,5,7,10 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) 2,4,6,8,9 and 11-14 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3,7,10 and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB-08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Paper No(s)/Mail Date _____
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 2, 4, 6, 8 – 9, 11 – 14 had been canceled.
2. Claims 1, 3, 5, 7, 10, 15 – 18 are pending.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 3, 5, 7, 10, 15, 16, 17, 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wong et al. (US 20040037278 B1), and Gifford (6052718) in view of Ahmadi et al. (5233604).

Regarding claim 1, Wong et al. disclose a network router to route data packet (*Fig. 1, element 10, packet switch as network router; para. [0012], [0013]*), except Internet Protocol (IP) data packet comprising: a plurality of trunk ports, including a composite port of plural ports to plurality trunks which serve as a composite trunk to a common destination (*"at least one trunk formed by a plurality of aggregated network links; para. [0012],[0013]"*); a routing fabric for transfer of data packets between trunk ports (*"switching fabric" as routing fabric; Fig. 2, element 10 switch fabric, para. [0044]*), except IP data packets and an output port selector (*"a network output port arbitration sub-system" as an output port selector; para. [0052], Fig. 3A*) configured to use a

destination address of the data packets to select an output port for a packet from a composite port (*"a network output port arbitration sub-system" as an output port selector; para. [0042], [0052], Fig. 3A*), except a destination IP address of the IP data packets, the output port selector balancing load across the trunks of a composite trunk (*"a network output port arbitration sub-system" as an output port selector; para. [0052], Fig. 3A; "the loading of each of the network links of each of the trunked links is proportional to the number of packets transmitted to the particular link, and is determined in accordance with the type of load balancing scheme" as balancing load across the trunks of a composite trunk; Fig. 2, element 168, para. [0040], [0044], [0048]; [0052]*) except by dynamically weighting a number of entries to each route to the common destination. Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets, and by dynamically weighting a number of entries to each route to the common destination.

Gifford in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets (*"request message", "target IP address"; Fig. 6, col. 4, lines 24 – 54; Fig. 5a- 5b, col. 9, lines 35 – 54*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Gifford in order to provide a system for directing a client computer to a server replica that is estimated to provide good performance for the client computer (*as suggested by Gifford, see col. 6, lines 1 – 5*). Gifford implicitly discloses dynamically weighting a number of entries to each route to the common destination (*col. 11, lines 31 – 62*).

The combined system of Wong et al. and Gifford does not disclose explicitly by dynamically weighting a number of entries to each route to the common destination.

Narvaez-Guarnieri et al. in the same field of endeavor teach dynamically weighting a number of entries to each route to the common destination ("*.... A weight (or distance) is associated with each link and the shortest path tree isbetween source and destination node.*"; col. 1, lines 30 – 48, lines 58 – 65; "*...dynamically updating the Shortest Path Tree structure,.....*", col. 2, lines 26 – 33). At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Gifford to include the features of dynamically weighting a number of entries to each route to the common destination as taught by Narvaez-Guarnieri et al. One of ordinary skill in the art would be motivated to do so for providing algorithms for determining the routing of information data packets in a communications network, and particularly, a method implemented in a router for determining the shortest path for communicating packets to one of a plurality of inter-connected routers in a communications network (*as suggested by Narvaez-Guarnieri et al., see col. 1, lines 10 – 15*).

Regarding claim 3, Wong et al. disclose a network router to route data packet (*Fig. 1, element 10, packet switch as network router; para. [0012]*), except Internet Protocol (IP) data packets comprising: a plurality of trunk ports, including a composite port of plural ports to plural trunks which serve as a composite trunk to a common destination ("*at least one trunk formed by a plurality of aggregated network links; para. [0012], [0013]*"); a routing fabric for transfer of data packets between trunk ports

("switching fabric" as routing fabric; Fig. 2, element 10 switch fabric, para. [0044]), except IP data packets; and an output port selector ("a network output port arbitration sub-system" as an output port selector; para. [0052], Fig. 3A) configured to use a destination address of the data packet to select an output port for the data packet from a composite port according to a table ("a network output port arbitration sub-system" as an output port selector; para. [0042], [0052], Fig. 3A), Wong et al. also disclose for a load to approach balance across the trunks (...loading of the aggregated network links of the trunk is balanced,....."; Abstract), except a destination IP address of the IP data packet and IP data packets, and routes in the table being dynamically rewritable.

Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets, and routes in the table being dynamically rewritable.

Gifford in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets (*"request message", "target IP address"; Fig. 6, col. 4, lines 24 – 54; Fig. 5a- 5b, col. 9, lines 35 – 54*), and routes in the table being dynamically rewritable (*"routing database.....update dynamically,....."; col. 11, lines 31 – 62*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Gifford in order to provide a system for directing a client computer to a server replica that is estimated to provide good performance for the client computer (*as suggested by Gifford, see col. 6, lines 1 – 5*).

Regarding claim 5, Wong et al. disclose a method of routing data packets in a network (*"a local area network switch including a plurality of network ports for*

transmitting and receiving packets to and from network nodes via network links"; para. [0012]], except Internet protocol (IP) data packet comprising: identifying a destination of the data packets ("the packet having a source value and a destination address value indicating a destination node"; para. [0013]), forwarding the data packets toward the destination on the selected trunk (para. [0040], [0043]), except IP data packet; selecting one of plurality trunks forming a composite trunk to the destination based on a destination address of the data packets (para. [0042], [0052], Fig. 3A), except a destination IP address of the IP data packets, the trunk being selected ("the loading of each of the network links of each of the trunked links is proportional to the number of packets transmitted to the particular link, and is determined in accordance with the type of load balancing scheme" as adjustable weighting; paras. [0040], [0042]), except by dynamically weighting a number of entries to each route to the common destination.

Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets, and by dynamically weighting a number of entries to each route to the common destination.

Gifford in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets ("request message", "target IP address"; Fig. 6, col. 4, lines 24 – 54; Fig. 5a- 5b, col. 9, lines 35 – 54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Gifford in order to provide a system for directing a client computer to a server replica that is estimated to provide good performance for the client computer (*as suggested by*

Gifford, see col. 6, lines 1 – 5). Gifford implicitly discloses dynamically weighting a number of entries to each route to the common destination (col. 11, lines 31 – 62).

The combined system of Wong et al. and Gifford does not disclose explicitly by dynamically weighting a number of entries to each route to the common destination.

Narvaez-Guarnieri et al. in the same field of endeavor teach dynamically weighting a number of entries to each route to the common destination (“.... *A weight (or distance) is associated with each link and the shortest path tree isbetween source and destination node.*”; col. 1, lines 30 – 48, lines 58 – 65; “...*dynamically updating the Shortest Path Tree structure,.....*”, col. 2, lines 26 – 33). At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Gifford to include the features of dynamically weighting a number of entries to each route to the common destination as taught by Narvaez-Guarnieri et al. One of ordinary skill in the art would be motivated to do so for providing algorithms for determining the routing of information data packets in a communications network, and particularly, a method implemented in a router for determining the shortest path for communicating packets to one of a plurality of inter-connected routers in a communications network (*as suggested by Narvaez-Guarnieri et al., see col. 1, lines 10 – 15*).

Regarding claim 7, Wong et al. disclose a method of routing data packets in a network (“a local area network switch including a plurality of network ports for transmitting and receiving packets to and from network nodes via network links”; para. [0012]), except Internet Protocol (IP) data packets comprising: identifying a destination

of the data packets (*"the packet having a source value and a destination address value indicating a destination node"; para. [0013]*), except IP data packets; selecting one of plural trunks forming a composite trunk to the destination based on a destination address of the data packets (*para. [0042], [0052], Fig. 3A*), except a destination IP address of the IP data packets, , except routes in the table being dynamically rewritable for a load to approach balance across the trunks.

Wong et al. also disclose the trunk being selected according to a table (*para. [0042], [0043]*), and for a load to approach balance across the trunks (*....loading of the aggregated network links of the trunk is balanced,....."; Abstract*), except a destination IP address of the IP data packet and IP data packets, and routes in the table being dynamically rewritable.

Wong et al. do not disclose explicitly IP data packets and a destination IP address of the IP data packets, and routes in the table being dynamically rewritable.

Gifford in the same field of endeavor teaches IP data packets and a destination IP address of the IP data packets (*"request message", "target IP address"; Fig. 6, col. 4, lines 24 – 54; Fig. 5a- 5b, col. 9, lines 35 – 54*), and routes in the table being dynamically rewritable (*"routing database....update dynamically,....."; col. 11, lines 31 – 62*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include IP data packets and a destination IP address of the IP data packets as taught by Gifford in order to provide a system for directing a client computer to a server replica that is estimated to provide good performance for the client computer (*as suggested by Gifford, see col. 6, lines 1 – 5*).

Regarding claim 10, Wong et al. disclose the limitation of a method of routing packets in a network (*"a local area network switch including a plurality of network ports for transmitting and receiving packets to and from network nodes via network links"; para. [0012]*). Wong et al. also teach network is Ethernet and route packet through Ethernet.

Wong et al. do not disclose explicitly claimed wherein the network is the Internet and the packets are routed under an Internet protocol.

Gifford in the same field of endeavor teaches the network is the Internet (*"element 10, internet"; Fig. 1*) and the packets are routed under an Internet protocol (*"...IP routing procedures.....", col. 3, lines 66 – 67, col. 4, lines 1 – 10, lines 26 – 37*). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Wong et al. to include the network is the Internet and the packets are routed under an Internet protocol as taught by Gifford in order to provide a system for directing a client computer to a server replica that is estimated to provide good performance for the client computer (*as suggested by Gifford, see col. 6, lines 1 – 5*).

Regarding claims 15, 16, the combined system of Wong et al. and Gifford does not disclose explicitly a network router, and a method claimed wherein dynamically weighting the number of entries favors a shortest route to the destination.

Narvaez-Guarnieri et al. in the same field of endeavor teach wherein dynamically weighting the number of entries favors a shortest route to the destination (*"compute the shortest path tree (SPT), a weight (or distance) is associated with each link....., dynamically update....."; col. 1, lines 31 – 48; col. 2, lines 26 – 33*). At time the invention

was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Gifford to include the features of wherein dynamically weighting the number of entries favors a shortest route to the destination as taught by Narvaez-Guarnieri et al. One of ordinary skill in the art would be motivated to do so for providing algorithms for determining the routing of information data packets in a communications network, and particularly, a method implemented in a router for determining the shortest path for communicating packets to one of a plurality of interconnected routers in a communications network (*as suggested by Narvaez-Guarnieri et al., see col. 1, lines 10 – 15*).

Regarding claims 17, 18, the combined system of Wong et al. and Gifford does not disclose explicitly wherein a first dynamically rewritable route in the table is configured to be rewritten with a second dynamically rewritable route in the table.

Narvaez-Guarnieri et al. in the same field of endeavor teach wherein a first dynamically rewritable route in the table is configured to be rewritten with a second dynamically rewritable route in the table (*"routing table..."*; col. 1, lines 31 – 48; Fig. 4, Fig. 5, col. 7, lines 21 – 50). At time the invention was made it would have been obvious to a person of ordinary skill in the art to modify the teachings of Wong et al. and Gifford to include the features of wherein a first dynamically rewritable route in the table is configured to be rewritten with a second dynamically rewritable route in the table as taught by Narvaez-Guarnieri et al. One of ordinary skill in the art would be motivated to do so for providing algorithms for determining the routing of information data packets in

a communications network, and particularly, a method implemented in a router for determining the shortest path for communicating packets to one of a plurality of inter-connected routers in a communications network (*as suggested by Narvaez-Guarnieri et al.*, see col. 1, lines 10 – 15).

Response to Arguments

5. Applicant's arguments filed on 12/08/2009 with respect to claims 1, 3, 5, 7, 10, 15, 16, 17, 18 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571)272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Andrew C Lee/
Examiner, Art Unit 2476<3Q10::6_02_10>

/Ayaz R. Sheikh/
Supervisory Patent Examiner, Art
Unit 2476